Marine Rescue Technologies

Manufacturer and distributor of global leading Man Overboard Solutions from

sMRT SEA MARSHALL MOBILARM

sMRT V100 User Manual

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I • Introduction

This user manual provides all the information required to operate and test the sMRT V100. The following symbols and conventions are used to indicate important information. Always observe these instructions. Ensure you read the Warnings and Safety Information section of this manual before first use of the device.

WARNINGS: Instructions that, if ignored, could result in serious personal injury or death. These must be observed for safe operation.

CAUTIONS: Instructions that, if ignored, could result in personal injury or material damage caused by incorrect operation of the equipment. These must be observed for safe operation.

IMPORTANT NOTE: Important instructions that should be adhered to during system operation.

Typographic Conventions

1. sMRT V100 hardware features are displayed in bold upper case letters, e.g. **SWITCH LOCK**.

2. sMRT V100 operation states are displayed in bold uppercase letters surrounded by square brackets, e.g. **[READY]**.

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Using your sMRT V100 for the first time

Carefully read the Warnings and Safety Information section in this manual prior to using the sMRT V100 for the first time. To operate correctly, the sMRT V100 should be professionally fitted to an MRT approved PFD by an MRT authorised service centre or following the integration instructions provided by MRT. Visit the MRT website: www.mrtsos.com for specific instructions on accessing the sMRT V100. Prior to first use, perform a full system test to confirm the device to confirm that the device does not display the red light error alert.

WARNINGS: sMRT V100 Record of Ownership

As a responsible Manufacturer of life saving man overboard devices, MRT maintains a ownership registration database to provide to Government Search and Rescue (SAR) authorities in the event of an emergency. Registration of your product is critical therefore follow product registration instructions contained within this manual.

CAUTIONS: The sMRT V100 should only be used in an emergency. DELIBERATE MISUSE MAY INCUR A SEVERE PENALTY.

II • Glossary of Terms & Acronyms

AIS	Automatic Identification System: Automatic tracking system used on ships and by vessel traffic services for identifying and locating vessels by electronically exchanging data with other nearby ships, AIS base stations, and satellites.
AMSA	Australian Maritime Safety Authority
DSC	Digital Selective Calling – technology used to automate calling on terrestrial marine radio systems.
ECDIS	Electronic Chart Display and Information System
EPIRB	Emergency Position Indicating Radio Beacon.
FCC US	US Federal Communications Commission
MAYDAY	Voice distress priority message
MMSI	Maritime Mobile Service Identity (DSC identity number)
MRT	Marine Rescue Technologies
MSLS	Maritime Survivor Locating System
mW	Unit of power measurement; one thousandth of a Watt
PFD	Personal Flotation Device
PLD	Personal Locating Device
RTCM	Radio Technical Commission for Maritime Services
SAR	Search and Rescue
USCG	US Coast Guard
VHF	Very High Frequency radio band – 30 to 300 MHz.
W	Watt - unit of electrical power measurement

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III • Warnings & Safety Information

WARNINGS:

- The sMRT V100 is a local area Personal Locating Device (PLD), that transmits an emergency message via VHF DSC and AIS only.
- Before first use perform a full system test to confirm that the device does not display a red light error alert.
- After deployment into active service, a regular full system test of the sMRT V100 should be performed every 3 months. Do not test the device more than once per month to avoid affecting battery performance in an emergency.
- The sMRT V100 should ONLY be used in an emergency. DELIBERATE MISUSE MAY INCUR A SEVERE PENALTY.
- Annual inspection and recertification of the sMRT V100 by MRT Ltd. or an authorised service agent is mandatory every 12 months.
- Do not dismantle the sMRT V100 as it contains no user serviceable parts. MRT Ltd. and authorised service agents offer a full and comprehensive service and repair facility for recertification of units and battery replacement.
- The sMRT V100 emits radio frequency radiation when in use. Avoid handling the antenna when activated.
- The high intensity strobe light on the unit may cause discomfort if it is viewed for long periods. Avoid staring directly at it when operational.
- The sMRT V100 uses positional data derived from its internal GPS antenna to define the location of a man overboard. A clear view of the sky is required to obtain a GPS position. Please note that the device is only as accurate as the positional data it receives. The GPS system is currently managed and maintained by the US Government, who can from time-to-time alter its effective accuracy.
- Contains lithium batteries; do not puncture, deform, short-circuit, recharge or incinerate the V100.

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LIFE JACKET & PERSONAL PROTECTIVE EQUIPMENT (PPE) USAGE WARNINGS:

- The sMRT V100 must only be fitted/attached to life jackets approved by MRT Ltd.
- Only MRT approved attachment kits/pouches are to be used to attach the unit to the life jacket.
- The sMRT V100 must be fitted strictly in accordance with the MRT's instructions as supplied.
- The sMRT V100 must only be fitted according to MRT instructional procedures or by an approved service centre authorised by MRT.
- The life jacket is to be serviced according to the manufacturer's specifications.
- It is the user's responsibility to ensure that any ancillary equipment, such as survival suits/harnesses, PPE, clothing etc., does not interfere with the operation of the sMRT V100.

CAUTION:

- Do not paint the sMRT V100 or clean it with aggressive detergents or solvents. Some cleaning materials may damage the seals and affect the integrity of the device.
- To ensure the sMRT V100 operates as intended in an emergency:
  - o Avoid dropping the unit.
  - o Avoid leaving the unit unnecessarily in full sun where it may be exposed to excessively high temperatures.
  - o Inspect the device periodically for signs of wear and tear, visible cracks or other damage.

The sMRT V100 could save your life, treat it with respect at all times.

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IV • sMRT V100 Overview

The sMRT V100 is a multi-system Personal Locating Device designed to RTCM Standard 11901.1 specifications for use during an emergency at sea. The integration of VHF DSC and AIS technologies equips mariners in distress with life-saving technology to vastly improve the likelihood of rapid location and recovery by a vessel or Search and Rescue (SAR) authorities.

How the sMRT V100 works

The sMRT V100 uses the marine VHF radio band to transmit open loop distress alerts and updated GPS positions regularly from the survivor in the water to VHF DSC radios, as well as AIS equipped vessels within range. A 30 second delay period prior to activation is designed to avoid the device being activated accidentally.

The sMRT V100 transmits AIS and emergency VHF DSC transmissions after activation. AIS transmissions take precedence over VHF DSC transmissions and will be transmitted first. The sMRT V100 uses an internal GPS receiver to acquire a position within approximately one minute of activation. The device then sends VHF DSC and AIS transmissions containing the devices current position.

Some marine radios are able to output a waypoint of the GPS position embedded within distress alerts to chart plotters. AIS alerts are routinely displayed on Electronic Chart Display and Information Systems (ECDIS). Compatible chart plotters or ECDIS can use these waypoints to provide the direction and rate of drift of the survivor, as well as range and bearing information.

Emergency alerts operate on a timing schedule and are repeated at regular intervals to update rescue teams and assist in tracking the survivor in the water. The STROBE light on the device flashes once per second after activation and assists with visual homing at night or in poor weather conditions.

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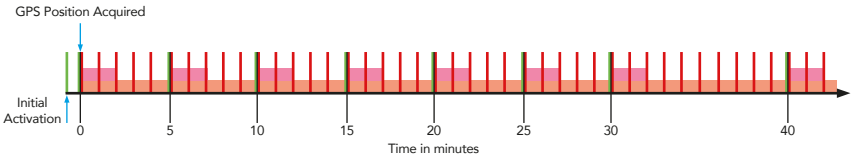

sMRT V100 Transmissions

	1W AIS transmissions commence after GPS is acquired and continue every minute thereafter.
	500mW VHF DSC transmission immediately after activation, then after GPS position acquired, then every 5 mins for 30 mins, then every 10 mins until DSC acknowledgement or battery expires.
	Open loop transmissions until DSC Acknowledgement received.
	2 minute VHF DSC receiver activation period after VHF-DSC transmissions; VHF radio acknowledgement may be received by sMRT V100.

Prevention of Accidental Activation

The flush-mounted design of the **SWITCH LOCK, ACTIVATION SWITCH** and **ACTIVATION TAB** prevents the device from being accidentally activated. In addition, manual activation is a two stage process, requiring the user to remove the **SWITCH LOCK** and slide the **ARMING SWITCH** to the **[READY]** position to arm the device. The user must also remove the **ACTIVATION TAB** to activate the device.

If the device is accidentally activated, the deliberate warning period after automatic activation enables the user to switch the device **[OFF]** before transmissions commence. To help prevent false alarms:

1. Keep the device away from young children and educate all users in device operation and the ramifications of false alarms.
2. Disarm from the **[READY]** state when not in use for long periods.

IV.1 • sMRT V100 Features

1 FLEXIBLE ANTENNA.
2 LEDs.
3 GPS ANTENNA.
4 STROBE LIGHT.
5 ACTIVATION TAB.
6 Lanyard Attachment Hole.
7 WATER SENSOR.
8 SWITCH LOCK.
9 ARMING SWITCH.
10 TEST SPOT (Side).

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Water Activation Sensor

The sMRT V100 features an automatic **WATER SENSOR**. After the PFD inflates and the **WATER SENSOR** is submerged continuously for **2** seconds, the device will automatically activate after a 10 second time delay.

Test Spot

A **TEST SPOT** is located on the left side of the sMRT v100. Place the **TEST MAGNET** over the **TEST SPOT** to activate a full device test and verify GPS acquisition is functioning. For more information see Testing.

V • sMRT V100 Operation

WARNING: DO NOT unzip the main PFD zip. Use the sMRT V100 access point zip in the life jacket to prepare the sMRT V100 for use. The **ACTIVATION TAB** is attached to the PFD. DO NOT remove the **ACTIVATION TAB** from the sMRT V100 during setup as this will activate the device when it is in the **[READY]** position and send distress alerts.

The sMRT V100 must be professionally fitted to an MRT approved PFD to operate correctly. This ensures the device is in the most effective position for water activation and emergency transmissions, while the PFD assists the casualty to remain afloat and face-up when in the water. The water sensor and antenna are attached and the device is inserted into a purpose-built pouch for stability. The device is **[OFF]** when shipped and needs to be configured in the **[READY]** state prior to use.

WARNING: See the MRT website www.mrtsos.com for specific instructions on accessing the sMRT V100 inside the sMRT PFD.

Remove the sMRT PFD from its plastic shipping package.

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Open the device access point zip in the PFD.
The **SWITCH LOCK** is attached to the PFD to prevent it being lost.

Remove the yellow **SWITCH LOCK** from the device and slide the black **ARMING SWITCH** to the **[READY]** position. Both LEDs will turn solid blue for 5 seconds to confirm it is in **[READY]** mode.

Reinsert the **SWITCH LOCK** above the **ARMING SWITCH** to lock it in the **[READY]** position.

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Conduct a self test using the test procedure.

Reattach the Velcro tab and close the access point zip securely.
The sMRT V100 and PFD is now ready for use.

WARNING: After arming the unit it can remain in the life jacket for 12 months until the jacket and PLB unit require annual servicing and recertification. Before returning the unit for servicing and recertification it must be made safe:

1. Remove the **SWITCH LOCK** if it is in place and slide the **ARMING SWITCH** from **[READY]** to the **[OFF]** position.
2. Replace the **SWITCH LOCK** to ensure the device remains inactive while transported.

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How to Activate the Device when Armed

When the sMRT V100 is armed in the **[READY]** position it can activate as follows:

1. Automatically via the water sensor after **2** seconds of continuous immersion.
2. Automatically when the PFD inflates in an emergency. Note: When the life jacket inflates it removes the **ACTIVATION TAB** from the sMRT v100 and automatically activates the device.
3. Manually by removing the ACTIVATION TAB from the device.

Device Indications after Activation

When activated the sMRT V100 features a 10 second warning period, during which:

1. The **PIEZO** beeps initially for two seconds, and
2. **LEFT LED** blinks blue and **RIGHT LED** illuminates solid blue.

After the 10 second warning period the sMRT V100 will commence AIS and emergency VHF DSC transmissions. The internal GPS receiver will acquire a position within approximately one minute of activation and the device can then send VHF DSC, and AIS transmissions containing the survivor's current position.

The **STROBE** light on the device flashes once per second to assist with visual homing at night or in poor weather conditions.

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sMRT V100 LED Indications

During operation the **LEFT LED** indicates a range of device operation states and the **RIGHT LED** indicates GPS operation status. The **STATUS LEDs** may display the following indications:

LEFT LED	LED Colour	RIGHT LED	LED Colour
Radio Transmission Error	Solid Red	No GPS Position Acquired	Solid Blue
Warning period immediately following device activation	Short Blue Blinks	GPS Position Acquired	Solid Green
Alert Transmission OK	Solid Blue		
DSC Acknowledge Received	Solid Green		
Less than 12 hours battery life	Magenta		

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V.1 • Cancelling Alerts

Cancelling the Distress Alert after Recovery of a Man Overboard or Accidental Activation

To deactivate the device and cancel the distress alert:

1. Remove the **SWITCH LOCK** if it is in place and slide the ARMING SWITCH from **[READY]** to the **[OFF]** position. Then insert the **SWITCH LOCK** to ensure the device remains inactive.
2. Use a VHF radio to broadcast an "all stations" voice message cancelling the alert over the emergency VHF marine channel in your region (channel 16 in most regions).

   Example of message to cancel the distress alert:
   ALL SHIPS ALL SHIPS ALL SHIPS
   THIS IS {vessel call sign repeated 3 times}
   CANCEL DISTRESS ALERT FROM {MMSI number}
3. Contact the Coast Guard or Search and Rescue Coordination Centre serving your region at the earliest possible opportunity to advise them that you have cancelled the alert.

IMPORTANT NOTE: If you do not have access to a VHF marine radio, contact your search and rescue authority by telephone.

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V.2 • Testing

A full system test is performed prior to the sMRT V100 being installed into an MRT approved PFD. The device is **[OFF]** when shipped in a PFD and needs to be configured in the **[READY]** state prior to use. A full system test should also be performed.

After deployment into active service, a regular full system test of the sMRT V100 should be performed every 3 months. Do not test the device more than once per month as this could affect battery performance in an emergency. MRT mandates each device is returned to MRT, or an authorised service agent, for annual servicing and recertification.

WARNINGS:

1. DO NOT unzip the PFD. Use the device access point to prepare the sMRT V100 for use. DO NOT remove the **ACTIVATION TAB** during setup as this will activate the device and send distress alerts.
2. Ensure the device has a clear view of the sky during testing to receive a GPS signal.
3. If the sMRT v100 fails any element of a self-test or any full system test, take it out of service immediately.
4. If the battery test indicates less than 12 hours of battery life remaining, return the device to MRT or an authorised MRT service agent for battery replacement.
5. DO NOT ignore a low battery warning as the device may not operate to full capacity in a man overboard emergency.

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Self-Test

The sMRT V100 performs a self-test when the **ACTIVATION SWITCH** is moved from the **[OFF]** position to **[READY]**. Self-test **LED** indications are displayed for several seconds at this point and may display as follows:

LEFT LED	LED Colour	RIGHT LED	LED Colour
Battery critically low or VHF transmitter error; remove device from service	Solid red	GPS error; remove device from service	Solid Red
VHF Self Test OK	Solid Blue	GPS self test OK	Solid Blue
Less than 12 hours battery life; remove device from service	Magenta		

The **LEFT LED** indicates a range of device test states and the **RIGHT LED** indicates GPS test status.

Full System Test

1. The **ARMING SWITCH** can be in the **[OFF]** or **[READY]** positions when performing a full system test.
2. Open the sMRT V100 access point zip in the PFD. Insert the **TEST MAGNET** and hold it over the **TEST SPOT** for three seconds to activate test mode.

During the activation period:

- The **STROBE** flashes 3 times
- The **PIEZO** bleeps 3 times

3. The unit will remain in test mode and attempt to acquire a GPS position for a maximum of 5 minutes (indicated by a **GREEN LED**). Ensure the device has a clear view of the sky to receive a GPS signal.
4. A test AIS message is sent within 30 seconds of acquiring a GPS position. If no GPS position is acquired (no **GREEN LED**) but no **RED LED** is displayed, the unit is fit for purpose.
5. Test mode is then complete and the unit will return to its original state.

IMPORTANT NOTE: If a **RED** or **MAGENTA LED** is displayed, the device should be removed from service and returned to MRT or an authorised MRT service agent.

Depending on conditions during testing it is possible that an AIS transmission may not be picked up by the receiving equipment.

AIS data is transmitted every minute when operating in live mode which allows the receiver to identify and display a new target.

If an AIS message is not displayed on the receiver this does not indicate that the device is faulty.

Cancel a Full System Test

1. To stop the system test before completion, open the access point in the PFD and hold the **TEST MAGNET** over the **TEST SPOT** for three seconds.

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VI • Recertification and Servicing

Annual recertification is necessary to ensure the sMRT V100 operates effectively in a lifesaving situation. Do not use your sMRT V100 if there are any signs of damage, or if any functional tests fail (**RED** or **MAGENTA LED**). MRT Ltd. and authorised service agents provide a comprehensive service and repair facility for recertification of units, including a battery replacement.

WARNING: If annual recertification is not undertaken prior to the certification expiry date each year, the operability and reliability of the unit will be severely affected and will NOT BE CERTIFIED FOR ANY FURTHER USE. Upon GPS testing or activation both LEDs will flash **BLUE** and **MAGENTA** 10 times if the sMRT V100 has not been recertified as specified. MRT is not liable for any defect or failure of the unit and any resulting effect including Personal Injury or Death.

How to Return Units for Recertification and Servicing

Please contact MRT at support@mrtsos.com, or your authorised service agent, to obtain an RMA tracking number for any units being returned for recertification and servicing. Record the RMA number and include it when returning units as it is used to track the device during the servicing and recertification process.

Operational Life

The sMRT V100 has an operational life of 5 years from first use and must be recertified annually.

End of Life Statement

Marine Rescue Technologies hereby declares that all materials, components and products supplied are in full compliance with RoHS & WEE directives. This product must be disposed of according to local laws and regulations. Because the product contains a battery it must be disposed of separately from household waste. Do not incinerate, but take it to a recycling facility.

Changing Contact Details or Ownership of the Unit

Factory-assigned device MMSI numbers are allocated to sMRT V100 units prior to shipping. It is the owner's responsibility to advise MRT of any change of contact details or ownership of a sMRT V100.
If ownership is transferred, you need to contact MRT or an authorised MRT service agent to register the device in your name.

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VII • Declaration of Conformity

Marine Rescue Technologies

We take the SEARCH out of Search and Rescue

Declaration of Conformity

Name of Manufacturer Importer:	Marine Rescue Technologies Limited
Address of Manufacturer Importer:	Marshall House, Zarya Court, Grovehill Road
	Beverley, East Yorkshire, HU17 0JG, U.K
	United Kingdom

Declares that product: sMRT V100 - Maritime Survivor Locating Device

Conforms to the R&TTE Directive 1999/5/EC as attested by conformity with the following harmonized standards:

EN 301 843-1 V1.3.1:

Electromagnetic compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for marine radio equipment and services; Part 1: Common technical requirements.

EN 301 843-2 V1.2.1:

Electromagnetic compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for marine radio equipment and services; Part 2: Specific conditions for VHF radiotelephone transmitters and receivers.

EN 302 885-2 V1.1.1:

Electromagnetic compatibility and Radio spectrum Matters (ERM); Portable Very High Frequency (VHF) radiotelephone equipment for the maritime mobile service operating in the VHF bands with integrated handheld class D DSC; Part 2: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive.

And that the following extra-directive standards have also been applied:

EN 60945:2002:

Maritime navigation and radio communication equipment and systems. General requirements. Methods of testing and required test results.

RTCM 11901.1:2012:

Radio Technical Commission for Maritime Services standard for Maritime Survivor Locating Devices (MSLD).

Ken Gaunt .....

C.E.O MRT Limited

December 2013

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Vat number 772782395 Company Registration Number 4202403

VIII • Warranty

This product is warrantied for 12 months from date of delivery and an additional 12 months following each annual recertification.

It is important to register the purchase of MRT products by **completing the warranty card enclosed with the product** or on the company website: www.MRTSOS.com. Failure to complete registration could delay any warranty claim.

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IX • Terms & Conditions of Sale

1 Definitions & Interpretation

(a) The definitions and rules of interpretation in this clause apply in these Conditions.

Annual Maintenance/Support: an annual programme of maintenance, repairs and support in respect of marine safety equipment in accordance with relevant Maintenance Protocols available from the Supplier under an Annual Maintenance & Recertification Agreement.

Annual Maintenance & Recertification Agreement: the Supplier's separate Annual Maintenance & Recertification Service Agreement covering Annual Maintenance/Support and Annual Recertification.

Annual Recertification: means annual recertification of marine safety equipment as being in Good Working Order by the Supplier following completion of Annual Maintenance/Support available from the Supplier under an Annual Maintenance & Recertification Agreement.

Conditions: these Terms & Conditions of Sale.

Contract: the Customer's order and the Supplier's acceptance of it in accordance with clause 3(c), which incorporates these Conditions.

Customer: the person, firm or company who purchases Equipment from the Supplier.

Equipment: the equipment to be purchased by the Customer from the Supplier under the Contract, including all hardware and related Software, and all substitutions, replacements or renewals of such items and all related accessories, manuals and instructions provided (including without limitation any part or parts thereof).

Good Working Order: means operation in accordance with relevant operating manuals, specifications and other manufacturer documentation.

Intellectual Property Rights: patents, rights to inventions, copyright and related rights, trade marks, trade names, domain names, rights in get-up, rights in goodwill or to sue for passing off, unfair competition rights, rights in designs, rights in computer software, database rights, topography rights, moral rights, rights in confidential information (including without limitation know-how and trade secrets) and any other intellectual property rights, in each case whether registered or unregistered and including without limitation all applications for and renewals or extensions of such rights, and all similar or equivalent rights or forms of protection in any part of the world.

Maintenance Protocols: the Supplier's published procedures, requirements and protocols for routine preventative and corrective maintenance, repairs and support of marine safety equipment supplied by it (including hardware maintenance and repair, Software updates and maintenance) from time to time to ensure it is in Good Working Order.

Software: means one or more computer programs in object code format, whether stand alone or bundled with other hardware or software supplied as part of the Equipment, including embedded code, and all related documentation supplied under the Contract.

Supplier: Marine Rescue Technologies Limited (Company No. 04202403), Registered Office: Halifax House, 30-34 George Street, Hull, East Yorkshire HU1 3AJ.

VAT: value added tax chargeable under English law for the time being and any similar additional tax.

(b) Clause headings shall not affect the interpretation of these Conditions. References to clauses are to the clauses of these Conditions

(c) A person includes a natural person, corporate or unincorporated body (whether or not having separate legal personality).

(d) A reference to a company shall include any company, corporation or other body corporate, wherever and however incorporated or established.

(e) Unless the context otherwise requires, words in the singular shall include the plural and in the plural include the singular.

(f) Unless the context otherwise requires, a reference to one gender shall include a reference to the other genders.

(g) A reference to a statute or statutory provision is a reference to it as amended, extended or re-enacted from time to time.

(h) A reference to writing or written includes faxes and e-mail.

2 Application of Conditions

(a) These Conditions shall:

(i) apply to and be incorporated in the Contract; and

(ii) prevail over any inconsistent terms or clauses contained in or referred to in the Customer's purchase order, confirmation of order, or specification, or implied by law, trade custom, practice or course of dealing.

(b) No addition to, variation of, exclusion or attempted exclusion of any term of these Conditions shall be binding on the Supplier unless in writing and signed by a duly authorised representative of the Supplier.

(c) Each of the Supplier and the Customer warrant to each other that it has full capacity and authority to enter into and perform the Contract, and that those signing the Contract are duly authorised to bind the party for whom they sign.

3 Basis of Sale

(a) Any quotation is valid for a period of 30 days only, and the Supplier may withdraw it at any time by notice to the Customer.

(b) Each order or acceptance of a quotation for Equipment by the Customer shall be deemed to be an offer by the Customer subject to these Conditions. The Customer shall ensure that its order is complete and accurate.

(c) A binding contract shall not come into existence between the Supplier and the Customer unless and until the Supplier issues a written order acknowledgement to the Customer, or the Supplier delivers the Equipment (as appropriate) to the Customer (whichever occurs earlier).

(d) The Supplier may deliver the Equipment by separate instalments. Each separate instalment shall be invoiced and paid for in accordance with the provisions of the applicable Contract. Each instalment shall be a separate Contract and no cancellation or termination by either party of any one Contract relating to an instalment shall entitle the Customer to repudiate or cancel any other Contract or instalment.

(e) No order for Equipment which has been acknowledged by the Supplier may be cancelled by the Customer, except with the agreement in writing of the Supplier and provided that the Customer indemnifies the Supplier in full against all loss (including without limitation loss of profit), costs (including without limitation the cost of all labour and materials used), damages, charges and expenses incurred by the Supplier as a result of cancellation. Details of cancellation charges is available from the Supplier upon request.

(f) Certain Software products require product activation prior to being fully enabled. Orders for Software purchases may not under any circumstances be cancelled after product activation, including those purchases and/or downloads originating through a web-based transaction.

(g) The United Nations Convention on Contracts for the International Sale of Goods shall not apply to any Contract made subject to these Conditions.

4 Quantity and Description

(a) The quantity and description of the Equipment shall be as set out in the Supplier's acknowledgement of order or (if there is no acknowledgement of order) quotation.

(b) All samples, drawings, descriptive matter, specifications and advertising issued by the Supplier, and any descriptions or illustrations contained in the Supplier's catalogues or brochures are issued or published for illustrative purposes only and they do not form part of the Contract.

(c) Any typographical, clerical or other error or omission in any sales literature, quotation, price list, acceptance of offer, invoice or other document or information issued by the Supplier shall be subject to correction without any liability on the part of the Supplier.

(d) The Supplier reserves the right (but does not assume the obligation) to make any changes in the specification of the Equipment which are required to conform with any applicable legislation or, where the Equipment is to be supplied to the

Customer's specification, which do not materially affect their quality or performance.

5 Prices

(a) All prices are exclusive of delivery, packaging, packing, shipping, carriage, insurance, VAT and other taxes, levies, assessments, charges and duties applicable to the sale of the Equipment and import into the destination country. If any exemption from any taxes, duties or other charges is claimed, the Customer must provide appropriate written evidence to the Supplier.

(b) The price of the Equipment shall be as stated in the Supplier's acknowledgement of order or quotation, or where no price has been quoted (or a quoted price is no longer valid), the price listed in the Supplier's price list current at the date of acceptance of the order.

(c) The Supplier reserves the right, by giving notice to the Customer at any time before delivery, to increase the price of such of the Equipment as has not been delivered to reflect any increase in the cost to the Supplier which is due to any factor beyond the control of the Supplier (including without limitation any foreign exchange fluctuation, currency regulation, alteration of duties, change in legislation, significant increase in the costs of labour, materials or other costs of manufacture), any change in delivery dates, quantities or specifications for the Equipment which is requested by the Customer, or any delay caused by any instructions of the Customer or failure of the Customer to give the Supplier adequate information or instructions.

(d) The prices payable for Annual Maintenance/Support and/or Annual Recertification shall be as stated in the Supplier's acknowledgement of order or as specified in the relevant Annual Maintenance & Recertification Agreement. The Supplier reserves the right, by giving sixty (60) days written notice to the Customer at any time, to increase the prices charged by the Supplier for Annual Maintenance/Support and/or Annual Recertification, unless otherwise specified in the relevant Annual Maintenance & Recertification Agreement or otherwise agreed in writing by the Supplier (for example, price changes for prepaid Annual Maintenance & Recertification will usually be agreed separately in writing between the parties).

6 Payment

(a) Subject to any special terms agreed in writing between the Customer and the Supplier, the Supplier may invoice the Customer for the price of the Equipment on or at any time after delivery of the Equipment, unless:

(i) the Equipment is to be collected by the Customer; or

(ii) the Customer wrongfully fails to take delivery of the Equipment,

and in either case the Supplier shall be entitled to invoice the Customer for the price at any time after the Supplier has notified the Customer that the Equipment is ready for collection.

(b) The Supplier may invoice the Customer for Annual Maintenance/Support and/or Annual Recertification in advance of the start of the relevant period, or as specified in the relevant Annual Maintenance & Recertification Agreement.

(c) Credit payment terms are only available to the Customer with the prior approval of the Supplier, and will be subject to an assessment of the Customer's creditworthiness. The Supplier may change the Customer's credit or payment terms at any time if (in the opinion of the Supplier) the Customer's financial condition or previous payment record justifies this.

(d) Subject to clause 6(c), unless an alternative payment period is stated in the Supplier's invoice, payment by the Customer shall be made within 30 days of the date of the Supplier's invoice, whether or not delivery has taken place or title in the Equipment has passed to the Customer.

(e) Unless otherwise specified in the Supplier's invoice, all payments shall be made in British Pounds (GBP) to the Supplier's designated bank account by direct debit, credit card or electronic transfer. Time for payment shall be of the essence of the Contract.

(f) If the Customer fails to make payment in full on the due date, the whole of the balance of the price of the Equipment and any Annual Maintenance/Support and/or Annual Recertification then outstanding shall become immediately due and payable and, without prejudice to any other right or remedy available to the Supplier, the Supplier shall be entitled to:

(i) terminate the Contract or suspend any further deliveries of Equipment and/or provision of warranty service or Annual Maintenance/Support and/or Annual Recertification (whether ordered under the same contract or not) to the Customer;

(ii) appropriate any payment made by the Customer to such of the Equipment or Annual Maintenance/Support or Annual Recertification (whether under this Contract or any other contract between the Customer and the Supplier) as it thinks fit (despite any purported appropriation by the Customer);

(iii) charge interest on the amount outstanding from the due date to the date of receipt by the Supplier (whether or not after judgement), at the annual rate of 5% above the base lending rate from time to time of NatWest Bank plc, accruing on a daily basis and being compounded quarterly until payment is made, whether before or after any judgement. The Supplier reserves the right to claim interest under the Late Payment of Commercial Debts (Interest) Act 1998;

(iv) make a storage charge for any undelivered Equipment at its current rates from time to time;

(v) a general lien on all Equipment and property belonging to the Customer, exercisable in respect of all sums lawfully due from the Customer to the Supplier. The Supplier shall be entitled, on the expiry of 14 days' notice in writing, to dispose of such Equipment or property in such manner and at such price as it thinks fit and to apply the proceeds towards the amount outstanding.

(g) All sums payable to the Supplier under the Contract shall become due immediately on its termination, despite any other provision of the Contract. This clause 6(g) is without prejudice to any right to claim for interest under the law, or any right under the Contract.

(h) The Supplier may, without prejudice to any other rights it may have, set off any liability of the Customer to the Supplier against any liability of the Supplier to the Customer.

7 Delivery of Equipment and Acceptance

(a) The Supplier shall use its reasonable endeavours to deliver the Equipment on the date or dates specified in the Supplier's acknowledgement of order, but any such date is approximate only and time is not of the essence as to delivery. If no dates are so specified, delivery shall be within a reasonable time of acceptance of the order.

(b) The Equipment shall be delivered to the Customer's delivery location specified in the Supplier's acknowledgement of order or such other location agreed in writing prior to despatch. Equipment may be delivered by the Supplier in advance of the quoted delivery date on giving reasonable notice to the Customer.

(c) Delivery shall be made during normal business hours (excluding bank or public holidays). The Supplier may levy additional charges for any deliveries made outside such hours at the Customer's request.

(d) The Customer shall be responsible (at the Customer's cost) for preparing the delivery location for the delivery of the Equipment and for the provision of all necessary access and facilities reasonably required to deliver the Equipment. If the Supplier is prevented from carrying out delivery or installation on the specified date because no such preparation has been carried out, the Supplier may levy additional charges to recover its loss arising from this event.

(e) The Customer shall be deemed to have accepted the Equipment when the Customer has had 5 days to inspect it after delivery and has not notified the Supplier in writing under clause 12(b).

(f) The Supplier shall be responsible for any damage, shortage or loss in transit, provided that the Customer notifies it to the Supplier (or its carrier, if applicable) within three days of delivery or the proposed delivery date of the Equipment and that the Equipment has been handled in accordance with the Supplier's stipulations. Any remedy under this clause 7(f) shall be limited, at the option of the Supplier, to the replacement or repair of any Equipment which is proven to the Supplier's satisfaction to have been lost or damaged in transit.

(g) The Customer shall be responsible for complying with any legislation governing the importation of the Equipment into the country of destination, and subsequent the export and re-export of the Equipment. If in order to acquire or use the Equipment it must be registered with any governmental authority, it is the Customer's responsibility to obtain and maintain such registration and to pay any associated costs, expenses or taxes.

8 Risk and Property
(a) The Equipment shall be at the risk of the Supplier until delivery to the Customer. The Supplier shall off-load the Equipment at the Customer's risk.
(b) Ownership of the Equipment shall pass to the Customer on the later of completion of delivery (including without limitation off-loading), or when the Supplier has received in full in cleared funds all sums due to it in respect of:
(i) the Equipment; and
(ii) all other sums which are or become due to the Supplier from the Customer on any account.
(c) Until ownership of the Equipment has passed to the Customer under clause 8(b), the Customer shall:
(i) hold the Equipment on a fiduciary basis as the Supplier's bailee;
(ii) store the Equipment (at no cost to the Supplier) in satisfactory conditions and separately from all the Customer's other equipment or that of a third party, so that it remains readily identifiable as the Supplier's property;
(iii) not destroy, deface or obscure any identifying mark or packaging on or relating to the Equipment; and
(iv) keep the Equipment insured on the Supplier's behalf for its full price against all risks with a reputable insurer, ensure that the Supplier's interest in the Equipment is noted on the policy, and hold the proceeds of such insurance on trust for the Supplier and not mix them with any other money, nor pay the proceeds into an overdrawn bank account.
(d) The Customer's right to possession of the Equipment before ownership has passed to it shall terminate immediately if any of the circumstances set out in clause 17 arise or if the Customer encumbers or in any way charges the Equipment, or if the Customer fails to make any payment to the Supplier on the due date.
(e) The Customer grants the Supplier, its agents and employees an irrevocable licence at any time to enter any premises where the Equipment is or may be stored in order to inspect it, or where the Customer's right to possession has terminated, to remove it. All costs incurred by the Supplier in repossessing the Equipment shall be borne by the Customer.
(f) On termination of the Contract for any reason, the Supplier's (but not the Customer's) rights in this clause 8 shall remain in effect.
(g) The Supplier may appropriate payments by the Customer to such Equipment as it thinks fit, notwithstanding any purported appropriation by the Customer to the contrary.
9 Inspection and Testing of Equipment
The Supplier shall:
(i) test and inspect the Equipment on delivery to ensure that it complies with the requirements of the Contract; and
(ii) if so requested by the Customer, give the Customer reasonable advance notice of such tests (which the Customer shall be entitled to attend).
10 Software Licence
(a) If the Supplier refers to a software licence in its acknowledgement of order, the price of the Equipment includes the licence fee for the Customer's right to use the Software.
(b) If the Customer is provided with any operating system software licence in respect of the Software, the Customer shall sign and return it to the Supplier within seven days of installation of the software, unless the licence has been supplied on a "shrink-wrap" or "click-wrap" basis.
(c) If no software licence has been provided to the Customer, the Customer hereby accepts a non-exclusive licence to use the object code of the Software in conjunction with the Equipment for the Customer's own internal purposes in accordance with the documentation (if any) provided with the Software on the following conditions:
(i) the Customer shall not copy (except to the extent permissible under applicable law which is not capable of exclusion by agreement) or reproduce, translate, adapt, vary or modify the software, nor communicate it to any third party, without Supplier's prior written consent;
(ii) the Customer shall not use the Software on any equipment other than the Equipment, and shall not remove, adapt or otherwise tamper with any copyright notice, legend or logo which appears in or on the Software on the medium on which it resides;
(iii) such licence shall be terminable by either party on 28 days' written notice, provided that the Supplier may terminate only if the continued use or possession of the Software by the Customer infringes the developer's or a third party's rights, or the Supplier is compelled to do so by law, or if the Customer has failed to comply with any term of the Contract; and
(iv) on or before the expiry of this licence, the Customer shall return to the Supplier all copies of the Software in its possession.
(d) The Customer's Software licence under clause 10(c) is transferable by the Customer, subject to the Customer providing to the Supplier the name, address and location of transferee and payment of any applicable fees to the extent permissible under local laws. The Customer will immediately upon transfer deliver all copies of the Software to the transferee. The transferee must agree in writing to the Supplier's Software licence terms. In addition, the Customer's licence terms will be binding on involuntary transferees, notice of which is hereby given. Customer's licence will automatically terminate upon transfer.
11 Maintenance & Support - IMPORTANT
(a) It is the Customer's responsibility to arrange for Annual Maintenance/Support and Annual Recertification of all Equipment to be undertaken by the Supplier in accordance with the Maintenance Protocols for that Equipment under a separate Annual Maintenance & Recertification Agreement. The Customer will be responsible for all additional charges payable under the Annual Maintenance & Recertification Agreement and for all transportation expenses incurred in returning Equipment to the Supplier for the provision of this service.
(b) Orders placed by the Customer for Annual Maintenance/Support and Annual Recertification are subject to the Supplier's terms and conditions relevant to the Equipment and services concerned. The Customer also agrees, if required by the Supplier, to enter into separate written Annual Maintenance & Recertification Agreement(s) with the Supplier (in the Supplier's then current form) setting out the terms and conditions upon which such services will be provided.
(c) Eligibility of Equipment for Annual Maintenance/Support and Annual Recertification is limited to Equipment at current specified revision levels.
(d) The Customer is responsible for removing any Equipment not eligible for Annual Maintenance/Support or Annual Recertification to enable the Supplier to perform these services. Additional charges, calculated at the Supplier's standard rates, may be incurred for any extra work caused by such Equipment.
(e) The Customer is responsible for maintaining a procedure external to the Equipment to reconstruct lost or altered Customer files, data or programs.
(f) Subject to the terms of any applicable Annual Maintenance & Recertification Agreement, by giving not less than sixty (60) days' written notice to the other party:
(i) the Customer may delete provision of Annual Maintenance/-Support and Annual Recertification in respect of any Equipment, or may cancel any related support agreement; or
(ii) the Supplier may delete Equipment no longer included in the Supplier's support offering or may cancel a support agreement.
(g) Subject to the terms of any applicable Annual Maintenance & Recertification Agreement, the Customer may not assign or transfer a support agreement without the Supplier's prior written consent. Any attempted assignment or transfer without such consent will be void. As conditions to such consent; (i) the assignee or transferee must agree in writing to the applicable support agreement; (ii) the Supplier may require that all Equipment included within a support agreement is in good operating condition; and (iii) the Supplier may impose applicable charges in connection with the assignment or transfer.
(h) If Annual Maintenance and Annual Recertification is not promptly undertaken on any item of Equipment every 12 months in accordance with the Maintenance Protocols for that Equipment, this may severely affect the operability and safety of that equipment, and accordingly such item is not safe for any further use and the Supplier's warranty provided in respect of the item of Equipment concerned (under clause 12 below) will be void. The Supplier also excludes all liability for continued use of that item of Equipment in these circumstances (see clause 14(e) below).
12 Limited Warranty
(a) The Supplier warrants to the Customer that the Equipment is

free from defects in workmanship and materials. The Supplier undertakes (subject to the remainder of this clause 11(h)), at its option, to repair or replace any Equipment (other than consumable items) which is found to be defective as a result of faulty materials or workmanship within 12 months from the date of delivery.
(b) The Supplier shall not in any circumstances be liable for a breach of the warranty contained in clause 12(a) unless:
(i) the Customer gives written notice of the defect to the Supplier within five (5) days of the time when the Customer discovers or ought to have discovered the defect; and
(ii) after receiving the notice, the Supplier is given the option of testing or inspecting such Equipment at its current location or moving it to the Supplier's premises, and the Customer shall (if asked to do so by the Supplier) return such Equipment to the Supplier's place of business (or those of its agents or sub-contractor) at the Supplier's cost.
(c) The Supplier shall not in any circumstances be liable for a breach of the warranty in clause 12(a) if:
(i) the Customer makes any use of Equipment in respect of which it has given written notice under clause 12(b)(i); or
(ii) the defect has arisen because the Customer failed to follow the Supplier's oral or written instructions as to the storage, commissioning, operation or use of the Equipment or (if there are none) good industry practice; or
(iii) the defect has arisen as a result of misuse, neglect, accident, mishandling or unauthorised or incorrect repair or maintenance by any person other than the Supplier, or improper installation, unauthorised modification, or loss or damage in transit; or
(iv) the serial number to the Equipment concerned has been removed, defaced, or changed; or
(v) the defect has arisen as a result of any information, design or any other assistance supplied or furnished by the Customer (or a third party on the Customer's behalf); or
(vi) the Customer has failed to comply with its obligations under clause 11(a) (including the terms of any Annual Maintenance & Recertification Agreement) relating to maintenance of the Equipment concerned.
(d) Insofar as the Equipment hardware comprises or contains equipment or components which were not manufactured or produced by the Supplier, the Customer is entitled only to such warranty as the Supplier has received from the manufacturer. The Supplier shall use reasonable endeavours to transfer the benefit of such warranty to the Customer.
(e) The warranty contained in clause 12(a) does not guarantee any minimum range or coverage of the Equipment or any ancillary equipment.
(f) If the Supplier repairs or replaces Equipment as a result of any defect which falls outside the scope of the warranty in clause 12(a) then the Customer is responsible for payment of all the Supplier's associated costs (including the costs of transportation, investigation and replacement parts and labour charges) at the Supplier's standard rates at the relevant time.
(g) Whenever repairing Equipment the Supplier may, at its option, repair or replace Equipment parts or sub-assemblies with new or reconditioned parts and sub-assemblies.
(h) The Supplier warrants that any of the Supplier's own standard Software will substantially conform to its published technical specifications. Any Software supplied with the Equipment which was not produced by the Supplier is warranted in accordance with any End User License Agreement issued by the licensor(s) of that software which is supplied with the Equipment. The Supplier warrants all Software products against failure of programming instructions due to defects in materials and workmanship when properly installed and used on the Supplier's Equipment hardware. The Supplier is not responsible in any way for ancillary equipment, hardware or software not supplied by the Supplier which is attached to or used in connection with the Equipment, or for the operation of the Equipment with any ancillary equipment, hardware or software and all such equipment, hardware or software is expressly excluded from the Supplier's warranty.
(i) Any repaired or replacement Equipment shall be under warranty for the unexpired portion of the 12 month period referred to in clause 12(a).
13 Supplier remedy
(a) If the Supplier's performance of its obligations under the Contract is prevented or delayed by any act or omission of the Customer (other than by reason of a Force Majeure Event under clause 18), the Customer shall in all circumstances be liable to pay to the Supplier all reasonable costs, charges or losses sustained by it as a result, subject to the Supplier notifying the Customer in writing of any such claim it might have against the Customer in this respect.
14 Limitation of Liability
(a) The following provisions set out the entire financial liability of the Supplier (including without limitation any liability for the acts or omissions of its employees, agents and sub-contractors) to the Customer in respect of:
(i) any breach of the Contract howsoever arising; and
(ii) any representation, misrepresentation (whether innocent or negligent), statement or tortious act or omission (including without limitation negligence) arising out of or in connection with the Contract.
(b) All warranties, clauses and other terms implied by statute or common law are excluded from the Contract to the fullest extent permitted by law.
(c) Nothing in these Conditions excludes or limits the liability of the Supplier for:
(i) death or personal injury caused by the Supplier's negligence; or
(ii) fraud or fraudulent misrepresentation.
(d) Subject to clause 14(b) and clause 14(c):
(i) the Supplier shall not in any circumstances be liable, whether in tort (including without limitation for negligence or breach of statutory duty howsoever arising), contract, misrepresentation (whether innocent or negligent) or otherwise for:
(i) any loss of revenue, business, anticipated savings or profit or any loss of use or value; or
(ii) downtime costs, loss of data or data restoration costs, or
(iii) any special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
in each case, even if foreseeable. ("anticipated savings" denotes any expense which the Customer expected to avoid incurring or to incur in a lesser amount then would otherwise have been the case); and
(ii) the Supplier's total liability in contract, tort (including without limitation negligence and breach of statutory duty howsoever arising), misrepresentation (whether innocent or negligent), restitution or otherwise, arising in connection with the performance or contemplated performance of the Contract shall be limited to the price payable for the Equipment (together with, if applicable, the price of any Annual Maintenance/Support and Annual Recertification payable to the Supplier under the Contract).
(e) Subject to clause 14(c), the Supplier excludes all liability for any defects in any item of Equipment if Annual Maintenance and Annual Recertification is not undertaken every 12 months in accordance with the Maintenance Protocols for that Equipment, including any resulting personal injury or death to users of that item of Maintained Equipment.
15 Intellectual Property Rights
(a) Title, ownership, and all Intellectual Property Rights in the Equipment (or any part thereof) and any copy, portion, or modification thereof, shall not transfer to the Customer and shall remain the Supplier's property (or that of the Supplier's licensors). The Supplier and its licensors retain all right, title and interest in the Software and no rights are granted to the Customer except as expressly set out in these Conditions. The Customer shall not at any time make any unauthorised use of such Intellectual Property Rights, nor authorise or permit any of its agents or contractors or any other person to do so. Third party licensors may protect their rights in the Software in the event of any violation of these Conditions.
(b) The Customer agrees not to copy, modify, alter, translate, disassemble, or reverse engineer the Equipment (including without limitation any embedded Software), or attempt to disable any security devices or codes incorporated in the Equipment, except as permitted by law. The Customer must not remove, alter, or obscure any printed or displayed legal notices contained on or in the Equipment.
(c) If the Supplier manufactures the Equipment, or applies any process to it, in accordance with a specification submitted or prepared by the Customer or any other information provided by the Customer, the Customer shall indemnify and keep indemnified

the Supplier against all losses, damages, costs, claims, demands, liabilities and expenses (including without limitation consequential losses, loss of profit and loss of reputation, and all interest, penalties and legal and other professional costs and expenses) awarded against or incurred by the Supplier in connection with, or paid or agreed to be paid by the Supplier in settlement of, any claim for infringement of any third party Intellectual Property Rights which results from the Supplier's use of the Customer's specification or such other information. The indemnity shall apply whether or not the Customer has been negligent or at fault and does not limit any further compensation rights of the Supplier.

16 Confidentiality and Supplier's Property

(a) The Customer shall keep in strict confidence all technical or commercial know-how, specifications, inventions, processes or initiatives which are of a confidential nature and have been disclosed to the Customer by the Supplier or its agents, and any other confidential information concerning the Supplier's business or its products which the Customer may obtain. The Customer shall restrict disclosure of such confidential material to such of its employees, agents or sub-contractors as need to know the same for the purpose of discharging the Customer's obligations to the Supplier, and shall ensure that such employees, agents or sub-contractors are subject to obligations of confidentiality corresponding to those which bind the Customer.

(b) All materials, equipment and tools, drawings, specifications and data supplied by the Supplier to the Customer shall at all times be and remain the exclusive property of the Supplier, but shall be held by the Customer in safe custody at its own risk and maintained and kept in good condition by the Customer until returned to the Supplier, and shall not be disposed of or used other than in accordance with the Supplier's written instructions or authorisation.

(c) This clause 16 shall survive termination of the Contract, however arising.

17 Termination

(a) Without prejudice to any other right or remedy available to the Supplier, the Supplier may terminate the Contract or suspend any further deliveries under the Contract without liability to the Customer and, if the Equipment has been delivered but not paid for, the price shall become immediately due and payable notwithstanding any previous agreement or arrangement to the contrary if:

(i) the ability of the Customer to accept delivery of the Equipment is delayed, hindered or prevented by circumstances beyond the Customer's reasonable control; or

(ii) an order is made or a resolution is passed for the winding up of the Customer, or circumstances arise which entitle a court of competent jurisdiction to make a winding-up order in relation to the Customer; or

(iii) an order is made for the appointment of an administrator to manage the affairs, business and property of the Customer, or documents are filed with a court of competent jurisdiction for the appointment of an administrator of the Customer, or notice of intention to appoint an administrator is given by the Customer or its directors or by a qualifying floating charge holder (as defined in paragraph 14 of Schedule B1 to the Insolvency Act 1986); or

(iv) a receiver is appointed of any of the Customer's assets or undertaking, or if circumstances arise which entitle a court of competent jurisdiction or a creditor to appoint a receiver or manager of the Customer, or if any other person takes possession of or sells the Customer's assets; or

(v) the Customer makes any arrangement or composition with its creditors, or makes an application to a court of competent jurisdiction for the protection of its creditors in any way, or becomes bankrupt; or

(vi) the Customer ceases, or threatens to cease, to trade; or

(vii) the Customer takes or suffers any similar or analogous action to any of the foregoing in any jurisdiction in consequence of debt.

(b) Termination of the Contract, however arising, shall not affect or prejudice the accrued rights of the parties as at termination or the continuation of any provision expressly stated to survive or implicitly surviving termination.

18 Force Majeure

The Supplier reserves the right to defer the date of delivery, or to cancel the Contract or reduce the amount of Equipment ordered, if it is prevented from or delayed in carrying on its business by acts, events, omissions or accidents beyond its reasonable control, including without limitation strikes, lock-outs or other industrial disputes (whether involving the workforce of the Supplier or any other party), failure of a utility service or transport or telecommunications network, act of God, war, riot, civil commotion, malicious damage, compliance with any law or governmental order, rule, regulation or direction, accident, breakdown of plant or machinery, fire, flood, storm or default of suppliers or sub-contractors (Force Majeure Event).

19 Notices

Any notice required to be given pursuant to the Contract shall be in writing and shall be delivered by hand or sent by pre-paid first-class post or recorded delivery post to the address of the party as set out in these Conditions, or such other address as may be notified by one party to the other. A notice delivered by hand is deemed to have been received when delivered (or, if delivery is not in business hours, 9.00 am on the first business day following delivery). A correctly addressed notice sent by pre-paid first-class post or recorded delivery post shall be deemed to have been received at the time at which it would have been delivered in the normal course of post.

20 Miscellaneous

(a) A waiver of any right under the Contract is only effective if it is in writing and signed by or on behalf of the waiving party, and it applies only to the party to whom the waiver is addressed and the circumstances for which it is given.

(b) If any provision of these Conditions (or part of a provision) is found by any court or administrative body of competent jurisdiction to be invalid, unenforceable or illegal, the other provisions shall remain in force.

(c) Each party acknowledges that, in entering into the Contract and the documents referred to in it, it does not rely on any statement, representation, assurance or warranty (Representation) of any person (whether a party to the Contract or not) other than as expressly set out in the Contract or those documents.

(d) Each party agrees that the only rights and remedies available to it arising out of or in connection with a Representation shall be for breach of contract. Nothing in this clause shall limit or exclude any liability for fraud.

(e) The Customer shall not, without the prior written consent of the Supplier, assign, transfer, charge, sub-contract or deal in any other manner with all or any of its rights or obligations under the Contract. The Supplier may at any time assign, transfer, charge, sub-contract or deal in any other manner with all or any of its rights or obligations under the Contract.

(f) The Contract is made for the benefit of the parties to it and (where applicable) their successors and permitted assigns, and is not intended to benefit, or be enforceable by, anyone else.

(g) The Contract and any disputes or claims arising out of or in connection with it or its subject matter or formation (including without limitation disputes or claims) are governed by and construed in accordance with the law of England. The parties irrevocably agree that the courts of England have exclusive jurisdiction to settle any dispute or claim that arises out of or in connection with the Contract or its subject matter or formation (including without limitation disputes or claims)

(h) Operational life of equipment is 5 years from date of purchase.

IMPORTANT NOTE: Terms and conditions are subject to change. Contact MRT for the latest terms and conditions or visit: www.mrtsos.com

X • Disclaimer

The sMRT V100 is an emergency rescue transmission device that should only be activated as a **last resort**. Misuse or false activation is unlawful and irresponsible, and could result in prosecution or penalty.

The sMRT V100 should not be relied on as the only source of man overboard notification and the vessel owner, operator or master must exercise common prudence and good seamanship at all times. Use of the sMRT V100 in no way reduces liability of the vessel's master and crew who have the primary responsibility for safety on board. No device is 100% fail safe, nor can it guarantee safe rescue in an emergency. When activated, the sMRT V100 is designed to transmit distress alerts to VHF DSC and AIS equipped vessels or stations within range, but requires subsequent human interaction to acknowledge and respond to the distress alert.

Satellite GPS lock and in-water tracking is dependent on the extent of satellite system coverage and reception at the time and location of the emergency. The actual time and success of rescue is therefore dependent on all these contributing factors and as such, is outside the control of MRT.

This user manual contains important information that must be adhered to for reliable use and operation of the product. It is the owner's sole responsibility to make the effort to read this manual and to ensure that the equipment's operation and limitations are understood. Visit the MRT website www.mrtsos.com to download the latest user manuals for all products. MRT reserves the right to change specifications, equipment, installation and maintenance instructions without notice as part of the company's policy of continuous product development and improvement.

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XI • Trademark Notice

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XII • Technical Specifications

GENERAL	
Standards	Designed to RTCM STANDARD 11901.1 and draft ETSI EN 303 098-1 Standard
Battery Type	9.0V 1500mAh Lithium Manganese Dioxide (LiMnO2)
Battery Life	Minimum of 12 hours at -10°C (14°F) and longer in warmer conditions.
Battery Shelf Life at +20°C	10 years from date printed on battery (replace after 5 years)
Operating Temperature	-20° to +55°C (-4° to +131°F) as per IEC 60945
Storage Temperature	-30° to +70°C (-22° to +158°F) as per IEC 60945
Dimensions	51mm (2in) W x 137mm (5.4in) H x 21mm (0.83in) D (26mm/1in with water sensor)
Weight	168g (5.9oz)
Durability	Tested as per IEC Standard 60945
Strobe Light	20 candela, 170 degree dispersion, flash rate once-per-sec
Environmental Resistance	IP67
Mounting Options	Designed for attachment to a SOLAS approved life jacket
MMSI	Preprogrammed (972xxyyyy); xx = manufacturer, yyyy = sequence 0000 to 9999
Compass Safe Distance	0.5m (1.5ft)
Alerting Radius	Up to 15NM surface to surface, up to 150 NM surface to air (satellite/fixed wing)*
AIS/VHF TRANSMITTER PACKAGES	
Antenna type	Vertically polarized
AIS Transmission Frequencies	AIS Channel 1: 161.975MHz; AIS Channel 2: 162.025MHz
AIS Tx Power Output	Nominal 1W EIRP
VHF Transmission Frequencies	VHF DSC Channel 70: 156.525 MHz; Nature of distress indication: "Man overboard"
VHF DSC Tx Power Output	Nominal radiated power 500mW
Signalling Type	AIS and VHF-DSC MOB standards applied as per RTCM Standard 11901.1
CONTROLS AND OPERATION	
V100 Operation Status	**[OFF]**, **[READY]**, **[ON]**
Automatic Activation	On PFD inflation then 10 second Tx delay
Automatic Water Activation	After 2 seconds of water sensor immersion in water then 10 second Tx delay
Manual Activation	Remove ACTIVATION TAB then 10 second Tx delay
Piezo sounding	Beep for two seconds when moved from **[OFF]** to **[READY]** state
LEFT LED	
No Illumination	V100 is **[OFF]**, or in **[READY]** state and inactive
Short Blue Blinks	V100 is in **WARNING** period immediately following device activation, Blinks once each second for 10 seconds
Solid Blue	V100 **[ON]** and in AIS and VHF DSC MAYDAY alerts sent
Solid Green	A VHF DSC radio acknowledgement had been received
Solid Red	Radio error or critically low battery
Short red Blinks	No Destination MMSI is programmed in the device
Solid Magenta	Battery has less than 12 hours operation remaining
RIGHT LED	
No Illumination	V100 is **[OFF]**, or in **[READY]** state and inactive
Solid Red	GPS Error
Solid Blue	No GPS Position Acquired
Solid Green	GPS Position Acquired
GPS RECEIVER	
GPS Receiver Type	48 channel
TTFF (Time to First Fix)	35 seconds (typical) with nominal GPS signal levels -130dBm
Subsequent GPS fixes	Every five minutes for 30 mins; then every 10 mins until switched off or battery expires
VHF DSC AND AIS ALERTS	
AIS	Immediately after activation and every minute thereafter on AIS channels 1 and 2
Initial Open Loop DSC Alert	After the initial AIS transmission when the device is activated
Subsequent Open Loop DSC Alerts	Continuous open loop thereafter, or until DSC acknowledgement.
First DSC GPS data alert sent	Usually within 30 secs after position acquired

* Expected range derived from sea trials. Actual alerting range dependent on sea state, atmospheric conditions and height/altitude of receiving antenna.

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